



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Jherson  
3-2-01

Application Serial No. . . . . 09/388,063  
Filing Date . . . . . August 30, 1999  
Inventor . . . . . Vishnu K. Agarwal et al.  
Assignee . . . . . Micron Technology, Inc.  
Group Art Unit . . . . . 2815  
Examiner . . . . . J. Fenty  
Attorney's Docket No. . . . . MI22-1196  
Title: Capacitors Having a Capacitor Dielectric Layer Comprising a Metal Oxide  
Having Multiple Different Metals Bonded With Oxygen

**RESPONSE TO DECEMBER 20, 2000 OFFICE ACTION**

To: Assistant Commissioner for Patents  
Washington, D.C. 20231

From: Mark S. Matkin (Tel. 509-624-4276; Fax 509-838-3424)  
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Responsive to the Office Action dated December 20, 2000, Applicant  
amends and remarks as follows:

**AMENDMENTS**

**In the Specification**

Please replace the last paragraph on page 6, beginning at line 15 and  
ending at page 7, line 2 with the following clean replacement paragraph in  
accordance with 37 C.F.R. § 1.121(b)(1)(ii):

NOV 14 2000  
FEB 23 2001  
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A' A high k capacitor dielectric region 35 is positioned between first capacitor electrode 24 and second capacitor electrode 26. Capacitor dielectric region 35 comprises a layer of metal oxide having multiple different metals bonded with oxygen, for example those materials described above. Most preferably and as shown, capacitor dielectric region 35 consists essentially of such layer, meaning no other layers are received intermediate first electrode 24 and second electrode 26 which meaningfully impact the operation or capacitance of capacitor 32. In accordance with but one aspect of the invention, the metal oxide layer having multiple different metals bonded with oxygen has varying stoichiometry across its thickness. In other words, the stoichiometry in such layer is not substantially constant throughout the layer.